The Albany Medical College of Union University

Albany, New York 12208

DEPARTMENT OF PATHOLOGY
518 445-5454

Jan. 30, 1977

Prof. Joshua Lederberg
Dept. of Medical Genetics
Stanford University
Stanford, Cal.

Dear Josh,

I feel somewhat embarrassed, in writing to you, that I am taking advantage of an old acquaintance which is now rather covered with the dust of ages. I do so only because I heard (at third hand from John Donch of SRI, by way of a mutual friend) that you are involved in problems involving mathematical modelling, and because this information coincides with a financial crunch here that has me looking for another appointment.

The facts: I have been here for eight and a half years as mathematical consultant and research strategist to a group working on atherosclerosis; it has been a pleasant and productive period. Last year the center grant that paid a lot of salaries, including mine, failed to get renewed. (My part of the program, remarkably, actually got unqualified praise from the site vist critique; but that is, at best, food for vanity.)

My chief wants me to continue indefinitely; but this depends on the outcome of a program project application now in the works. We hear the fate of this in June, and funds run out by July. I am not enough of a gambler to sit with hands folded, and not explore some alternatives.

You may recall something of my checkered history; but I am enclosing the usual stuff to remind you and bring you up to date. What I am currently most interested in is the theory of molecular control systems in growth and development. I have recently embarked on something that I think may be of broad interest; at the moment I find it quite exciting. My colleagues, studying proliferation in the artery wall, found an odd bimodal division pattern, quite similar to those found (in a very different way) by George Martin of Seattle in his studies of what he calls clonal senescence. In looking for an account of these, I developed a theory of transcriptional control with a critical instability. Even in its present primitive shape, it predicts our data and Martin's at least qualitatively, and it seems to be predicting things about cell death that may be relevant to such diverse things as programmed death in morphogenesis (e.g., John Saunders' work on the chick limb) and the mechanism of action of certain herbicides, as well as senescence and perhaps oncogenesis. (I have not gone off the deep end: The system produces transcriptionally sterile cells at each division, and at the same time selects for the most rapid dividers.)

I am not assuming that my pet project, however much it delights me, is necessarily what you want done in your department. But the advantage of being a mathematical biologist is that you can do much in spare time or at home, with just paper and pencil and occasional access to a computer when simulation is unavoidable - as long as you have ideas. So what I am hoping for is that there is some way my talents can be useful enough to warrant paying me a salary.

If there is nothing currently available in your department, perhaps you know of suitable opportunities. I will appreciate anything you can suggest.

Cordially yours,

John M. Reiner
Research Professor